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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,902	08/15/2001	Francisco Diaz Carmena	2591-1-001	5137

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EXAMINER
BOTTORFF, CHRISTOPHER

ART UNIT	PAPER NUMBER
3618	

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/856,902	DIAZ CARMENA ET AL.
	Examiner	Art Unit
	Christopher Bottorff	3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *May 22 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The amendment filed May 22, 2003 has been entered. Claims 1-8 are canceled. Claims 9-16 are added and represent the pending claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pajerski et al. US 4,697,661 in view of Hecker et al. US 3,986,090.

Pajerski et al. discloses a system for the controlled operation of a mobile X-ray unit propelled by electric motors. The system includes two drive wheels 12, 14 mounted in an axially opposed manner, an independent electric motor 18 with a corresponding independent control means for propelling drive wheel 12, an independent electric motor 20 with a corresponding independent control means for propelling drive wheel 14. See Figure 6. Each control means includes an independent power amplifier 22, 24 and a plurality of sensor means. Each power amplifier amplifies the electrical signals produced by the sensor means and supplies electric power to the electric motor. Each sensor means comprises extension-measuring gauges G_{1-4} arranged on bands 72, 74 of push and pull elements, wherein the sensors detect a mechanical force of the push pull elements, transform the mechanical force into electrical signals, and are capable of

being operated separately. See Figure 8. The drive wheels are propelled in accordance with a torque corresponding to movement ordered by the sensor means. The push and pull elements are formed by the bands 72, 74 whose first extremities are coupled to a connecting element 16 and whose second extremities are held immobile in fasteners. See figures 6 and 7. The push and pull elements connected to the force sensors and connecting element configure an assembly formed by a handle. In addition, Applicants concede that the features of Pajerski et al. represented by the preamble of claim 9. See page 6, lines 27-28, of the remarks to the amendment. However, Pajerski et al. does not disclose an amplification factor that is a function of the weight of the device, a feedback circuit, and first and second preamplifier means.

Hecker et al. teaches that the practice of providing motor control means in mobile X-ray units with an amplification factor that is a function of the weight of the device (see column 2, lines 4-8 and column 4, lines 9-14), a feedback circuit (column 4, lines 15-26 and 38-45), and first and second preamplifiers 12, 14 (column 4, lines 6-10 and 27-29) was old and well known in the art at the time the invention was made. The feedback circuit is provided in a power amplifier for comparing, by means of a comparator means 17, a true value (at the output of element 18) of an electric current fed to the electric motor with a pre-established nominal value S_u of an electric current needed to achieve the desired operation of the motor. See column 4, lines 38-42. Error signals are generated from differences detected between the true value and the pre-established value. The electric input signals to the power amplifier are altered by the error signals,

so as to apply the necessary power to the motor so that the needed torque for producing movement is generated by the motor. See column 4, lines 42-45.

Providing the control means of Pajerski et al. with an amplification factor that is a function of the weight of the device would have been obvious to one of ordinary skill in the art at the time the invention was made. This would prevent the weight from adversely influencing motor control. Providing the control means of Pajerski et al. with a feedback circuit would have been obvious to one of ordinary skill in the art at the time the invention was made. This would account for any difference between the actual and desired values of motor speed. Also, providing the control means of Pajerski et al. with first and second preamplifiers would have been obvious to one of ordinary skill in the art at the time the invention was made. This would amplify the sensor signals and the signal representing the difference between the actual and desired values of motor speed. Furthermore, this combined system would be capable of functioning as claimed.

Response to Arguments

Applicant's arguments filed May 22, 2003 have been fully considered but they are not persuasive.

Page 7, lines 23-26, of the remarks suggests that the invention of Hecker et al. and the present invention are distinct because Hecker et al. refers to a mechanical magnitude of speed, rather than referring strictly to current. However, this is not an accurate analysis of the inventions. Both the invention of Hecker at al. and the present invention involve measuring mechanical values of a motor and representing those

values by an electrical magnitude of current passing through an electrical circuit. In Hecker et al., the current value represents motor speed (n) and motor speed variations (dn/dt), which are proportional to motor torque. See column 3, lines 21-26, of Hecker et al. In the present invention, the current value represents motor torque. See page 7, lines 23-25, of the present specification. Regardless of whether or not a mechanical to electrical conversion takes place, the electrical circuits of both invention require that the signals passing through the circuits are in the form of electric magnitudes of current, which is all that the claims require. The claims do not exclude mechanical to electrical conversions in any way. Thus, the reference in Hecker et al. to mechanical magnitudes does not present a distinction between the invention of Hecker et al. and the present invention.

Pages 8 and 9 of the remarks allege that there are other distinctions between the invention of Hecker et al. and the present invention. In particular, Applicants contend that the permanence of the control signal in the invention of Hecker et al., the movement direction of the device of Hecker et al., and the movement length of the device of Hecker et al. represent distinctions between the inventions. These alleged distinctions presumably exist because the control circuit of Hecker et al. is intended to be used with a motor that manipulates a component mounted on a carriage, while the control circuit of the present invention is intended to be used with a wheel drive motor that manipulates the carriage itself. However, the existence of these alleged distinctions is irrelevant since they do not preclude the combination of the circuit of Hecker et al. with the system of Pajerski et al. and they are not excluded by the claims.

The present claims do not exclude a motor control circuit having a permanent control signal for addressing constant variations in system operation, a motor control circuit that prevents motor operation beyond set limits such as range of motion, or a motor control circuit that accounts for weight variations. Moreover, the motor control circuit of Hecker et al. would effectively control the wheel drive motors of Pajerski et al., and the system resulting from the combination would satisfy the limitations of the claimed invention. The intended use of the motor control circuit of Hecker et al. is of no consequence to the cited combination. Even if the system of Pajerski et al. does not require the additional capabilities of the circuit of Hecker et al., their presence does not upset the operation of the system of Pajerski et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Bottorff whose telephone number is (703) 308-2183. The examiner can normally be reached on Mon.-Fri. 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Johnson can be reached on (703) 308-0885. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Christopher Bottorff
July 5, 2003

BRIAN L. JOHNSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600
7/9/03